

WHAT IS CLAIMED IS:

- 1 1. A computer-implemented system for assigning sequence numbers,
2 *SuM*
2 *comprising:*
3 (a) a computer system; and
4 (b) sequence number assignment logic, performed by the computer system, for
5 generating a recoverable, unique sequence number for assignment to an application, wherein
6 the sequence number is contained in a control page stored in a database on a data storage
7 device coupled to the computer system and shared with other computer systems.
- 1 2. The system of claim 1, wherein the control page includes one or more
2 attributes selected from a group of attributes comprising an identifier, the sequence number
3 (SN), a range value (N), and a starting sequence number (Starting SN).
- 1 3. The system of claim 2, wherein the identifier is a user-defined value that
2 identifies a use for the sequence number.
- 1 4. The system of claim 2, wherein a value stored in N identifies a range of
2 sequence number assignments.
- 1 5. The system of claim 1, wherein one or more attributes from the control page
2 are stored in a data structure that is stored in the computer system.

1 6. The system of claim 5, wherein the data structure includes one or more
2 attributes selected from a group of attributes comprising a sequence number (SN_MEM)
3 and a "number remaining" value (N_Rem).

1 7. The system of claim 6, wherein a value stored in N_Rem indicates when a
2 range of sequence numbers should be obtained from the control page.

1 8. The system of claim 1, wherein the control page is periodically saved to the
2 data storage device, in order to effect a hardening of the control page.

1 9. The system of claim 1, wherein the sequence number assignment logic
2 further comprises logic for latching the sequence number to serialize generation of the
3 sequence number within the computer system.

1 10. The system of claim 1, wherein the sequence number assignment logic
2 further comprises logic for physically locking the control page to serialize updates to the
3 control page across multiple computer systems.

1 11. The system of claim 10, wherein the physical lock is not maintained when the
2 computer system fails, so that other computer systems are not prevented from continuing to
3 generate new sequence numbers.

1 12. A method of assigning sequence numbers in a computer-implemented
2 system, comprising:
3 (a) generating a recoverable, unique sequence number using sequence number
4 assignment logic performed by a computer system for assignment to an application; and
5 (b) storing the sequence number in a control page, wherein the control page is stored
6 in a database on a data storage device coupled to the computer system and shared with other
7 computer systems.

1 13. The method of claim 12, wherein the control page includes one or more
2 attributes selected from a group of attributes comprising an identifier, the sequence number
3 (SN), a range value (N), and a starting sequence number (Starting SN).

1 14. The method of claim 13, wherein the identifier is a user-defined value that
2 identifies a use for the sequence number.

1 15. The method of claim 13, wherein a value stored in N identifies a range of
2 sequence number assignments.

1 16. The method of claim 12, wherein one or more attributes from the control
2 page are stored in a data structure that is stored in the computer system.

1 17. The method of claim 16, wherein the data structure includes one or more

2 attributes selected from a group of attributes comprising a sequence number (SN_MEM)
3 and a "number remaining" value (N_Rem).

1 18. The method of claim 17, wherein a value stored in N_Rem indicates when a
2 range of sequence numbers should be obtained from the control page.

1 19. The method of claim 12, wherein the control page is periodically saved to the
2 data storage device, in order to effect a hardening of the control page.

1 20. The method of claim 12, wherein the sequence number assignment step
2 further comprises latching the sequence number to serialize generation of the sequence
3 number within the computer system.

1 21. The method of claim 12, wherein the sequence number assignment step
2 further comprises physically locking the control page to serialize updates to the control page
3 across multiple computer systems.

1 22. The method of claim 21, wherein the physical lock is not maintained when
2 the computer system fails, so that other computer systems are not prevented from
3 continuing to generate new sequence numbers.

1 23. An article of manufacture embodying logic for performing a method of

2 assigning sequence numbers in a computer-implemented system, the method comprising:
3 (a) generating a recoverable, unique sequence number using sequence number
4 assignment logic performed by a computer system for assignment to an application; and
5 (b) storing the sequence number in a control page, wherein the control page is stored
6 in a database on a data storage device coupled to the computer system and shared with other
7 computer systems.

1 24. The article of manufacture of claim 23, wherein the control page includes
2 one or more attributes selected from a group of attributes comprising an identifier, the
3 sequence number (SN), a range value (N), and a starting sequence number (Starting SN).

1 25. The article of manufacture of claim 24, wherein the identifier is a user-
2 defined value that identifies a use for the sequence number.

1 26. The article of manufacture of claim 24, wherein a value stored in N identifies
2 a range of sequence number assignments.

1 27. The article of manufacture of claim 23, wherein one or more attributes from
2 the control page are stored in a data structure that is stored in the computer system.

1 28. The article of manufacture of claim 27, wherein the data structure includes
2 one or more attributes selected from a group of attributes comprising a sequence number

3 (SN_MEM) and a “number remaining” value (N_Rem).

1 29. The article of manufacture of claim 28, wherein a value stored in N_Rem
2 indicates when a range of sequence numbers should be obtained from the control page.

1 30. The article of manufacture of claim 23, wherein the control page is
2 periodically saved to the data storage device, in order to effect a hardening of the control
3 page.

1 31. The article of manufacture of claim 23, wherein the sequence number
2 assignment step further comprises latching the sequence number to serialize generation of
3 the sequence number within the computer system.

1 32. The article of manufacture of claim 23, wherein the sequence number
2 assignment step further comprises physically locking the control page to serialize updates to
3 the control page across multiple computer systems.

1 33. The article of manufacture of claim 32, wherein the physical lock is not
2 maintained when the computer system fails, so that other computer systems are not
3 prevented from continuing to generate new sequence numbers.

1 34. A data structure used by sequence number assignment logic performed by

2 the computer, the data structures comprising:
3 a control page that contains a sequence number that has no restrictions on its size,
4 an identifier that is a user-defined value that identifies a use for the sequence number, a
5 range value (N) that identifies a range of sequence number assignments, and a starting
6 sequence number (Starting SN) that comprises an initial value for the sequence number.

1 35. The data structure of claim 34, wherein one or more attributes from the
2 control page are stored in an in-memory data structure in the computer system.

1 36. The data structure of claim 35, wherein the in-memory data structure
2 includes one or more attributes selected from a group of attributes comprising a sequence
3 number (SN_MEM) and a "number remaining" value (N_Rem).

1 37. The data structure of claim 36, wherein a value stored in N_Rem indicates
2 when a range of sequence numbers should be obtained from the control page.

1 38. The data structure of claim 35, wherein the control page is periodically saved
2 to a data storage device, in order to effect a hardening of the control page.

1 39. The data structure of claim 35, wherein the sequence number is latched to
2 serialize generation of the sequence number within the computer system.

1 40. The data structure of claim 35, wherein the control page is physically locked
2 by a computer system to serialize updates to the control page across multiple computer
3 systems.

1 41. The data structure of claim 40, wherein the physical lock is not maintained
2 when the computer system fails, so that other computer systems are not prevented from
3 continuing to generate new sequence numbers.

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